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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/588,016 | 08/01/2006 | Friedbert Wechs | 2037.6 | 2114 |
| 29494 7590 03/21/2011 HAMMER & ASSOCIATES, P.C. 3125 SPRINGBANK LANE SUITE G CHARLOTTE, NC 28226 | | | | |
| EXAMINER | | | | |
| BASS, DIRK R | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 1777 | | | | |
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| 03/21/2011 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/588,016

Applicant(s)

WECHS, FRIEDBERT

Examiner

DIRK BASS

Art Unit

1777

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-945)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Applicant's request for continued examination filed November 9, 2010 is acknowledged. Claims 1 is amended. Claims 1-12 and 14-18 are pending and further considered on the merits.

Response to Amendment

In response to the amendment, the examiner modifies the grounds of rejection set forth in the office action dated July 14, 2010.

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. **Claims 1-12 and 14-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakabayashi et al., USPA 2004/0045897 (Nakabayashi) in view of Scholander et al., 5840190 (Scholander).
3. Regarding claims 1-3, 12, and 14-16, Nakabayashi discloses a method for production of an asymmetric hollow fiber membrane comprising:
 - a. Preparing a spinning solution comprising a membrane forming polymer and solvent system and converting the spinning solution by means of a forming device into a shaped object with a first and second surface (Ex. 1-8);
 - b. Bringing the first or second surface into contact with a precipitant system comprising a polyelectrolyte, wherein the precipitant system is such that formation of a membrane results in having a separating layer on said surface (¶¶ 0015, 0044); and

- c. Washing and if necessary drying of the membrane (Ex. 1-8).
4. Nakabayashi does not explicitly disclose that the precipitant system comprises a polyelectrolyte having only negative fixed charges. However, it is well known in the art to functionalize membranes with negatively charged polymeric compositions as seen in Scholander. Scholander discloses modifying the surface of a membrane with polyacrylic acid (C4/L51-66), thereby conferring negatively charged functional groups on the surface of the membrane.
5. At the time of invention, it would have been obvious to one having ordinary skill in the art to modify the method of Nakabayashi to include precipitating a negatively charged polyelectrolyte on the membrane surface as taught by Scholander in order to provide a functionalized surface for subsequent immobilization of compounds that confer biocompatibility on the membrane surface during the formation of the membrane (Scholander C4/L2-9).
6. Regarding claim 4, Nakabayashi (in view of Scholander) discloses that the polyelectrolyte dissolved in the precipitant system precipitates in contact with the spinning solution (Ex. 1-8).
7. Regarding claims 5-6, Scholander further discloses that the proportion by weight of the polyelectrolyte with negative fixed charges relative to the weight of the precipitant system is 0.05 to 1 wt % (C4/L55-57).
8. Regarding claim 7, Scholander further discloses that the membrane forming polymer is a cellulosic polymer (C4/L38-50).

9. Regarding claims 8-9 and 17-18, Nakabayashi (in view of Scholander) discloses that the membrane forming polymer used in step A is polysulfone (¶ 0013).
10. Regarding claims 10-11, Nakabayashi (in view of Scholander) discloses that in step B the forming device used is a hollow fiber die with an inner an outer side and that in step C the precipitant system is an interior filler that is brought into contact with the interior surface (Ex. 1-8).

Response to Arguments

11. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIRK BASS whose telephone number is (571) 270-7370. The examiner can normally be reached on Mon - Fri (9am-4pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (571) 272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Krishnan S Menon/
Primary Examiner, Art Unit 1777

/DRB/
Dirk R. Bass